

QUIVAL TECH · FREE GUIDE

Build Your Own Gaming PC

The complete 2026 step-by-step guide —
from parts list to first boot, no experience needed.

(805) 750-3255

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The 10 chapters

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> Every chapter follows the same format: **The idea** → **Do this** → ⚠ **Watch out**. No experience needed — if you've ever used a screwdriver, you can build a PC. And if anything feels risky, that's what we're here for.

Before you touch a single part

Building your own gaming PC sounds intimidating. It isn't. Modern parts only fit together one way, and thousands of first-timers do it every week. What this guide gives you is the **order of operations** — the part everyone gets wrong — plus the compatibility checks that prevent the classic “parts don't fit” disaster.

What you'll finish with: a working gaming PC you chose, built, and understand — usually for less than an equivalent prebuilt, and with parts you can actually upgrade later.

A note on prices: component prices move fast — September 2026 is an expensive market for GPUs and RAM. The builds in Chapter 4 use prices checked this month; always verify live prices before ordering.

CHAPTER 1

Plan your build first

THE IDEA

Every good build starts with two decisions: **how much you spend** and **what you play**. The monitor you own (or plan to buy) decides everything — a 1080p/144Hz monitor and a 4K/144Hz monitor need completely different machines.

Do this

1. **Pick your target.** 1080p High-refresh (esports, competitive) → Starter build. 1440p High (the sweet spot for most gamers) → Sweet Spot build. 1440p Ultra / 4K → No Compromises.
2. **Set the budget around the GPU.** The graphics card should be roughly **40–50% of your total budget** — it's the part that decides your frame rate more than anything else.
3. **Don't forget the extras.** Windows license (~$140 retail, or transfer your old one), and peripherals if you need them. Budget builds often reuse the old monitor, keyboard, and mouse — that's smart, not cheap.
4. **Check prices twice.** GPU and RAM prices swing wildly (September 2026 is an expensive market). Use PCPartPicker to compare live prices before you buy.

⚠ WATCH OUT

Don't buy parts one at a time over months “when they're on sale” — by the time you finish, return windows expire and a part could arrive dead with no easy exchange. Buy everything within the same 1–2 weeks.

NEED A HAND?

Not sure which tier fits the games you play? Call or text us — **(805) 750-3255**. We spec builds all day and will tell you honestly if the cheaper tier is enough.

CHAPTER 2

The parts, explained

THE IDEA

Eight components make a gaming PC. Understand what each one does and you'll never overspend on the wrong part again.

Do this

1. **CPU (processor).** The brain. For gaming, 6–8 fast cores beat 16 slow ones. Current picks: **Ryzen 5 9600X** (~$173, best value), **Ryzen 7 9800X3D** (~$479, the fastest gaming CPU on earth), or Intel's **Core Ultra 7 270K Plus** (~$299, great all-rounder).
2. **GPU (graphics card).** The star — renders every frame. **RX 9070 XT 16GB** (~$750–800) is today's value king; **Intel Arc B580 12GB** (~$310) rules the budget tier; NVIDIA's RTX 5070 (~$850) if you want DLSS and NVENC streaming.
3. **Motherboard.** Everything plugs into it. A **B650/B850** board (~$140–200) has all a gamer needs — pricier boards add features, not FPS.
4. **RAM. 32GB DDR5-6000 CL30** (2×16GB) is the sweet spot in 2026. Always two sticks, never one — dual channel is free performance.
5. **SSD. 1TB NVMe Gen4** minimum — games are 100GB+ now. Gen5 drives cost more for speed you'll never feel in games.
6. **PSU (power supply).** The heart you never cheap out on. **80+ Gold**, right wattage, from a reputable brand. A bad PSU can kill every other part.
7. **Case.** Airflow beats looks. Mesh front panel, room for your GPU, at least two included fans.
8. **CPU cooler.** A $20–35 tower cooler (Thermalright Assassin X) handles most CPUs quietly. Stock coolers work for 65W chips; big CPUs want a beefy tower or 240mm liquid cooler.

⚠ WATCH OUT

The classic beginner mistake: a $800 GPU with a $40 no-name PSU. If the PSU dies, it can take the motherboard and GPU with it. Spend the extra $40 on a quality unit — it's the cheapest insurance in the build.



CHAPTER 3

The compatibility checklist

THE IDEA

Parts that don't fit together are the #1 reason first builds stall. Run this checklist **before** you click “buy” — it takes ten minutes and saves hours.

Do this

1. **CPU ↔ motherboard socket.** AMD Ryzen 9000 = **AM5** socket. Intel Core Ultra 200 = **LGA1851**. They are not interchangeable — ever.
2. **RAM generation.** Modern boards take **DDR5 only** — your old DDR4 sticks will not fit, physically or electrically. Check the board's QVL list for tested kits.
3. **PSU wattage.** Add GPU power + CPU power + 200W headroom. Example: 300W GPU + 120W CPU → **750W minimum**. RTX 50-series cards want an **ATX 3.1** PSU with the 12V-2x6 connector.
4. **GPU length vs. case.** Check the card's length in mm against the case's max GPU clearance. Triple-fan cards are long — measure twice.
5. **Cooler height vs. case.** Tower coolers list their height; cases list max cooler clearance. Same check, same reason.
6. **BIOS version.** A B650 board made before a CPU launched may need a BIOS update. Look for boards with **BIOS Flashback** (update without a CPU installed).

⚠ WATCH OUT

PCPartPicker flags most incompatibilities automatically — build your list there first and fix every warning before ordering. A warning you ignore is a return label you'll print later.

NEED A HAND?

Send us your parts list before you buy — **(805) 750-3255**. We check compatibility free, because we'd rather spend five minutes now than rescue a build later.

Want it built for you instead? We build custom gaming PCs at your home.

You pick the parts (or we spec them) — **Quival Tech assembles, tunes, and warranties** the whole machine. Thousand Oaks, Conejo Valley & nearby.

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CHAPTER 4

Three complete builds — September 2026

Real parts, real prices, ready to order. Prices move (especially GPUs and RAM in this market), so treat these as your blueprint and verify live prices.

STARTER · ~$980

1080p High · esports & AAA at high settings

AMD Ryzen 5 9600X	$173
Thermalright Assassin X 120 SE cooler	$20
MSI B650 Gaming Plus WiFi	$140
32GB (2×16) DDR5-6000 CL30	$110
1TB NVMe Gen4 SSD	$100
Intel Arc B580 12GB	$310
650W 80+ Bronze PSU	$67
Airflow mid-tower case	$60

12GB of VRAM at $310 — unbeatable value for 1080p. The 9600X leaves you an AM5 upgrade path for years.

SWEET SPOT · ~$1,450

1440p High · the build most gamers should buy

AMD Ryzen 5 9600X	$173
Thermalright Peerless Assassin 120 SE	$35
B650 / B850 motherboard	$160
32GB (2×16) DDR5-6000 CL30	$110
1TB NVMe Gen4 SSD	$100
AMD RX 9070 16GB	$649
750W 80+ Gold PSU	$100
Airflow mid-tower case	$80

16GB VRAM chews through 1440p. Want NVIDIA instead? The RTX 5070 (~$850) buys DLSS 4 and NVENC streaming.

NO COMPROMISES · ~$2,100

1440p Ultra · 4K entry · max settings, high refresh

AMD Ryzen 7 9800X3D	$479
240mm AIO liquid cooler	$90
B850 motherboard	$200
32GB (2×16) DDR5-6000 CL30	$110
2TB NVMe Gen4 SSD	$150
AMD RX 9070 XT 16GB	$799
850W 80+ Gold ATX 3.1 PSU	$130
Premium airflow case	$120

The 9800X3D + 9070 XT combo is ~62% faster than a 5060 Ti at 1440p. This machine stays relevant for 5+ years.

⚠ **WATCH OUT**

September 2026 reality check: GPU prices sit well above launch MSRP and RAM is expensive. If a card costs 40%+ over MSRP, wait or step down a tier — a fairly-priced RX 9070 beats an overpriced RTX 5070 every time.

CHAPTER 5

Tools & workspace setup

THE IDEA

You need less than you think — but the right basics prevent the two classic disasters: lost screws and static damage.

Do this

1. **Magnetic Phillips #2 screwdriver.** The single essential tool. Magnetic tip saves screws from falling into the case.
2. **Anti-static habits.** Build on a hard table, not carpet. Touch the metal case frequently — or wear a $8 anti-static wrist strap clipped to the case.
3. **Small bowls or a magnetic tray.** One per step. Screws are tiny, cases are dark, and floors eat them.
4. **Zip ties or Velcro straps.** For cable management later — included with most cases and PSUs.
5. **Good light + your phone.** A headlamp or desk lamp, and photograph each step — your own photos are the best manual when reassembling.
6. **Motherboard box as a test bench.** The cardboard box your motherboard came in is the perfect non-conductive surface for the pre-build test.

⚠ **WATCH OUT**

Never build on carpet in socks, and never force anything. PC parts are keyed to fit one way — if a connector needs real force, it's the wrong connector or the wrong orientation. Stop and look.

CHAPTER 6

Step-by-step assembly

THE IDEA

Build in this exact order and you'll never have to remove a part to reach another one. Take your time — a first build takes 2–3 hours, and that's normal.

Do this

1. **1 · CPU into the motherboard.** Do this before the board goes in the case. Lift the socket lever, align the **golden triangle** on the CPU with the triangle on the socket, drop it in with **zero force**, close the lever.
2. **2 · M.2 SSD.** Insert at a 30° angle into the slot, press down flat, secure with the tiny screw (or the board's tool-less latch). Remove the plastic film from any heatsink pad.
3. **3 · RAM.** Open the clips on slots **A2 and B2** (2nd and 4th from the CPU) — check the manual. Press firmly until both clips snap shut on their own.
4. **4 · CPU cooler.** Pea-sized dot of thermal paste in the center (skip if pre-applied — and **remove the plastic cover** from the cold plate!). Mount with even pressure, plug the fan into **CPU_FAN**.
5. **5 · PSU in the case.** Fan facing **down** (toward the case's bottom vent). Route the 24-pin and 8-pin CPU cables behind the motherboard tray now — you can't reach later.
6. **6 · Motherboard in.** Confirm the **standoffs** are installed (pre-installed in most cases), lower the board onto them, screw in a star pattern — snug, not Hercules-tight.
7. **7 · GPU.** Remove the right rear slot covers, open the PCIe latch, push the card in until the latch clicks. Screw the bracket, connect PCIe power cables, add a support bracket for heavy cards.
8. **8 · Front-panel connectors.** The fiddly bit: power button, USB, and audio headers per the motherboard manual. Phone photo of the diagram helps.
9. **9 · Final check.** 24-pin seated? 8-pin CPU seated? GPU power clicked? RAM fully in? Nothing loose rolling around? Then plug in and power on.

⚠ WATCH OUT

The two most common “it won't turn on” causes: the PSU's own power switch is OFF, or the front-panel power button connector is on the wrong pins. Check both before panicking.

NEED A HAND?

Stuck mid-build with parts spread across the table? Don't force it — text us a photo at **(805) 750-3255**. We do rescue visits, and most “dead” builds just need one cable reseated.

Something not posting? Don't guess — get a diagnosis.

We come to your home with test parts and 10+ years of experience. Most build problems are solved in a single visit.

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CHAPTER 7

Cable management & airflow

THE IDEA

Good cables aren't vanity — they improve airflow, cooling, and temperatures, which means quieter fans and longer part life. Budget 20 minutes; it's worth it.

Do this

1. **Route behind the motherboard tray.** Every cable that can go behind, goes behind. Only the final few inches should be visible.
2. **Big cables first.** 24-pin motherboard and 8-pin CPU power are the thickest — route them before the small ones box you in.
3. **GPU power: separate cables preferred.** For cards over 225W, run two separate PCIe cables instead of one daisy-chained cable when your PSU allows it.
4. **Fans: front & bottom IN, rear & top OUT.** Cool air enters low/front, hot air exits high/rear — heat rises, work with physics. Slightly more intake than exhaust keeps dust out.
5. **Secure, don't strangle.** Zip ties snug, not crushing. Leave gentle service loops — you'll thank yourself during the first upgrade.

⚠ WATCH OUT

Don't block the GPU's fans with cables hanging in front of them, and keep cables clear of spinning fan blades — a cable in a fan on first boot is a heart-stopper (usually harmless, always loud).

CHAPTER 8

First boot & BIOS setup

THE IDEA

The moment of truth. If it posts, you're 90% done — BIOS setup takes ten minutes and unlocks free performance.

Do this

1. **Plug the monitor into the GPU.** Not the motherboard — the #1 “no display” mistake. Then power on and spam **Delete** (or F2) to enter BIOS/UEFI.
2. **No POST? Run the checklist:** PSU switch on? 24-pin + 8-pin CPU + GPU power seated? RAM in A2/B2 and fully clicked? Monitor on the right input? Try one RAM stick if needed.
3. **Enable EXPO / XMP.** Your DDR5-6000 kit runs at slow JEDEC speeds until you enable its profile — one click in BIOS, instant free performance.
4. **Set the boot order.** Your Windows USB installer first. While you're here, check that all drives and RAM capacity show up correctly.
5. **Check temperatures.** Idle CPU should sit around 35–50°C in BIOS. If it's climbing past 70°C at idle, power off — the cooler isn't mounted right.
6. **Update the BIOS (optional but smart).** Download the latest from the motherboard maker's site onto a USB stick; most boards update from within BIOS in a few minutes.

⚠ WATCH OUT

If the board shows debug LEDs or beep codes, look them up in the manual — CPU / DRAM / VGA / BOOT lights tell you exactly which part to check. That's a feature, not a failure.

NEED A HAND?

No POST after the full checklist? Don't start buying replacement parts blindly — that's how a $0 fix becomes a $300 guess. We diagnose it at your home with test parts on hand: **(805) 750-3255**.

CHAPTER 9

Install Windows & drivers

THE IDEA

Install in the right order and you avoid 90% of “weird issues” threads: Windows first, then chipset, then GPU, then everything else.

Do this

1. **Create the installer.** On another computer, use Microsoft's Media Creation Tool to make a bootable USB (16GB+). Boot from it, install to your NVMe drive.
2. **Install chipset drivers first.** From AMD or Intel's site (not Windows Update) — these make the motherboard's components behave properly.
3. **Then GPU drivers.** NVIDIA or AMD's official driver — choose the “Game Ready” / “Adrenalin” gaming driver. This is what unlocks your card's real performance.
4. **Then Windows Update.** Let it finish fully, including optional driver updates, then reboot.
5. **Essentials only.** Browser, Discord/Steam, and a hardware monitor (HWiNFO). Skip the “driver updater” and “PC optimizer” junk — most are scams or bloatware.
6. **Activate Windows.** Retail key (~$140) or transfer your old PC's digital license via your Microsoft account.

⚠ WATCH OUT

Never download drivers from random “driver download” sites — they're a top malware vector. Manufacturer sites only: amd.com, nvidia.com, intel.com, and your motherboard maker's page.



CHAPTER 10

Test, tune & maintain

THE IDEA

Verify everything works now, while return windows are open — then keep it running like new for years with minimal effort.

Do this

1. **Stress-test the CPU.** Run Cinebench while watching HWiNFO. Ryzen 9000 under full load in the 80–90°C range is normal; crashes or throttling need attention.
2. **Stress-test the GPU.** Run a demanding game or 3DMark's free demo for 30 minutes. Watch for artifacts (weird colors/shapes) — those mean a problem, screenshot them.
3. **Benchmark your games.** Most AAA games have built-in benchmarks — run them to confirm you're hitting the FPS your tier promised.
4. **Monthly: dust.** Rinse dust filters under water (dry fully!), quick compressed-air pass. Two minutes, huge difference.
5. **Every 2–3 years: thermal paste.** When idle temps creep up 10°C+ from new, it's repaste time — or call us, it's a quick in-home service.
6. **Upgrade path.** GPU first (biggest FPS gain), then CPU — and on AM5, future Ryzen generations will drop into your current board. That's the platform advantage you paid for.

⚠ **WATCH OUT**

Don't chase benchmark numbers with aggressive overclocking on day one. Modern CPUs and GPUs auto-boost brilliantly — manual overclocking adds heat and risk for single-digit gains most gamers never feel.



QUIVAL TECH

Enjoy the build.
We're here if you need us.

Building it yourself is rewarding — but it's not for everyone. If you'd rather have an expert handle it, **we build custom gaming PCs at your home**: you approve the parts, we assemble, tune, and warranty the whole machine.

- **Custom gaming PC builds** — spec'd for your games & budget
- **Upgrades** — GPU, RAM, SSD & cooling, installed at your home
- **Diagnostics & rescue** — we fix builds that won't post
- **We come to you** — Thousand Oaks & Conejo Valley

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Free guide — share it with a friend who's thinking about building.

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